Govt. of (18 Go) Madras.

PUBLIC WORKS.

Dated 17/4/90

Recd. Encl.

G.O., 11. XI. 18 Go No. 1778R

Mysore State Ry.

Forwarding the six months estimate for the extension of the from Nanjangud to Gudalur for 1890-91

80/2

*Accompaniment to letter to the Government of India, Public Works Department, No. 1778 R., dated 11th November 1890.*

ABSTRACT of the Six Months' Capital Estimate of the British Section of the Nanjangad-Gúdalúr Extension of Mysore Railway for the year 1890-91.

| — | ACTUALS TO END OF 1888-89, BOTH INDIAN AND ENGLISH. | | | Actual, 1889-90. | Budget estimate, 1890-91. | Six months' estimate, 1890-91. | Budget estimate, 1891-92. |
|---|---|---|---|---|---|---|---|
| | Ordinary. | Capital expenditure on Railways not'charged against Revenue. | Total. | | | | |
| | RS. | RS. | RS. | RS. | RS. | RS. | RS. |
| Outlay in India .. .. .. .. | .. | .. | .. | .. | .. | 4,200 | .. |
| Total Capital outlay (*i.e.*,) Outlay in India and England .. .. .. | .. | .. | .. | .. | .. | 4,200 | .. |
| Interest .. .. .. .. .. | .. | .. | .. | .. | .. | .. | .. |

8th November 1890.

(Signed) SIDNEY SMITH, Major, R.E.,
Under-Secy. to Govt., P.W.D.,
Railway Branch.

# PUBLIC WORKS DEPARTMENT.

**Railway.**

Letter—from

Lieut.-Colonel T. GRACEY, R.E.,
*Offg. Joint Secretary to the Government of Madras,*
*Public Works Department, Railway Branch,*

To

The SECRETARY to the GOVERNMEMT of INDIA,
Public Works Department.

Sir,

In continuation of Public Works Department telegram, dated 8th November 1890, I am directed to forward the six months' estimate for the extension of the Mysore State Railway from Nanjangad to Gúdalúr for 1890-91.

I have the honor to be,
Sir,
Your most obedient servant,

Lieut.-Colonel, R.E.,
Offg. Joint Secy. to Govt., P.W.D.,
Railway Branch.

Fort St. George,
11th November 1890.

Exd. T. K. Narayana Aiyangar.
Spare Copies

RAILWAY.

# Govt. of {1890} Madras.

## PUBLIC WORKS.

*Dated November, 11th.*

*Recd.* *Encl.*

**11th Nov. 1890, No. 1778 R.**

**NOVEMBER.**

**Mysore State Railway**

Forwarding the six months' estimate for the extension of the — from Nanjangad to Gúdalúr for 1890-91.

Abstract Estimate of the Sri Chamraj Extension of the Nanjangud Railway for the year 1890-91.

| Description of Work | Capital or Revenue Account | Actual 1889-90 | Budget Estimate 1890-91 | Revised Budget Estimate 1890-91 | Budget Estimate 1891-92 |
|---|---|---|---|---|---|
| Land | Capital | Rs. 13 | Rs. 12 | Rs. 80 | Rs. 80 |
| Permanent Way | " | " | " | 4200 | " |
| Bridges | " | " | " | 4200 | " |
| Buildings | " | " | " | " | " |
| Miscellaneous | " | " | " | " | " |
| Rolling Stock | " | " | " | " | " |
| Total Capital outlay (i.e.) Cost of Railway including Land and Rolling Stock | | | | | |

GOVERNMENT OF MADRAS.

## PUBLIC WORKS DEPARTMENT.

**Railway.**

Read the following papers:—

Telegram from the Joint Secretary to Government, Public Works Department, Railway Branch, to the Engineer-in-Chief, East Coast Railway, dated 21st February 1890.

Government desires that you should fully consider the comparative merits of a direct line from Rajahmundry *viâ* Cocanada to Sámalkót or Tuni as well as those of the line suggested in the reconnaissance, having regard to cost of future working and convenience to trade.

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Telegram from the Engineer-in-Chief, East Coast Railway, to the Consulting Engineer for Railways, dated 1st March 1890.

Just returned to Waltair. Your telegram 21st February about line of railway not understood. What do you mean by a direct line from Rajahmundry *viâ* Cocanada to Sámalkót.

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Telegram from the Joint Secretary to Government, Public Works Department, Railway Branch, to the Engineer-in-Chief, East Coast Railway, Waltair, dated 3rd March 1890.

Your telegram 1st. Reconnaissance suggests line Rajahmundry, Sámalkót, Tuni, survey to Cocanada by branch. Alternative line now suggested is Rajahmundry to Cocanada direct and thence to either Sámalkót or Tuni, thus putting Cocanada on main line.

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Telegram from the Engineer-in-Chief, East Coast Railway, to the Joint Secretary to Government, Public Works Department, Railway Branch, dated 7th October 1890.

Please arrange to place another Deputy Collector at disposal of Collector, Godávari district, for acquiring land in Rajahmundry division.

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Telegram from the Joint Secretary to Government, Public Works Department, Railway Branch, to the Engineer-in-Chief, East Coast Railway, dated 11th October 1890.

Your telegram 7th. Alignment through Rajahmundry district from Ellore to Sámalkót not approved of. Orders under issue for a revised survey with stations on canals so that boats can be unloaded direct into wagons near Ellore, Bhimadole, Chebrole, Thadpalligudem and Chettipet on Ellore canal and at about miles 4, 8, 17, 24 and at Sámalkót on the Sámalkót canal. Please make arrangements for revised survey at once in anticipation of arrival detailed instructions.

Telegram from the Engineer-in-Chief, East Coast Railway, to the Joint Secretary to Government, Public Works Department, Railway Branch, dated 14th October 1890.

Before settling finally about these new surveys, please consider fully bridging Godávari. In future only one place to do it, that is at Rajahmundry. Costs there fifty-four lakhs, low down eighty-seven lakhs. If bridge is built your proposal increases length of line over sixteen miles with no adequate return. Present line shorter than canal line six miles. Country you propose for line full of tanks and bad for railway. If you wish we can take line from Rajahmundry to Sámalkót near Dowlaishweram. Any other alteration is in my opinion a decided mistake.

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From the Officiating Joint Secretary to the Government of Madras, Public Works Department, Railway Branch, to the Secretary to the Government of India, Public Works Department, dated 16th October 1890, No. 4211 C.

I am directed to forward copies of notes by the Chief Engineer for Irrigation, Madras, and by the Officiating Consulting Engineer for Guaranteed Railways, relative to the alignment of the East Coast Railway between Ellore and Sámalkót.

2. The Government of Madras is of opinion that the modified alignment of the Railway suggested by Mr. Walch with stations on the banks of the Ellore and Sámalkót canals so as to admit of goods being unloaded direct from the boats into the Railway wagon is very desirable.

3. The following stations between Ellore and Rajahmundry would, it is thought, best serve the traffic that might be expected from the canals in the Western delta of the river :—

| | MILES. |
|---|---|
| (1) Ellore ... ... ... ... ... ... ... | 47. |
| (2) Bhimadole ... ... ... ... ... ... ... | 36. |
| (3) Chebrole ... ... ... ... ... ... ... | 26. |
| (4) Thadpalligudem ... ... ... ... ... ... ... | 16. |
| (5) Chettipet ... ... ... ... ... ... ... | 6. |
| (6) Nidadavól ... ... ... ... ... ... ... | 4. |

(7) Arangabad or Kovoor whichever may be found most suitable for crossing the river to Rajahmundry. There should be no difficulty in setting out an alignment which would give stations on the canal at the first five-named places, and a station at Nidadavól is most desirable and should, it is considered, be provided even if considerable extra cost is entailed thereby, as the canals of the western section of the Godávari delta begin to fan out from a little below that place.

4. Between Rajahmundry and Sámalkót it is believed that a much easier alignment with no inordinate increase in through length would be obtained by turning down to the junction of the Bank canal with the Sámalkót canal in mile 1 than to mile 4 where the Cocanada canal joins it and running thence parallel to it to Sámalkót with stations in suitable positions about miles 8, 17 and 24.

5. The Government of Madras feel very strongly that the alignment set out by the Engineer-in-Chief, East Coast Railway, between Ellore, Rajahmundry and Sámalkót will not properly serve the traffic of the rich and populous irrigated lands of the Godávari delta, and they consider that the interests of local traffic have been unduly neglected in favor of obtaining a short and direct through route. The main purpose for which the delta canals were constructed was irrigation which yields large returns. Navigation was and is a subsidiary matter, but the demands of navigation and the necessity which exists of keeping the water in the canals at a high level, for irrigation purposes, seriously interfere with the development of irrigation which might otherwise be possible. It is therefore to the interest of the irrigation revenue that the canals should be relieved as quickly and thoroughly as possible of the great bulk of the traffic on them by its transfer to the Railway and this can be easily effected by making a series of stations on the banks of the two main canals. Moreover, if the Railway is to run as a protective work in times of famine by transporting the grain of the Godávari delta to all parts of the Presidency such an arrangement is absolutely necessary. The Madras Government have therefore directed the Engineer-in-Chief to make a revised survey embodying the suggestions made in this correspondence and to report fully upon the original and revised alignments at a very early date, and they trust that their action in this matter will meet with the approval of the Government of India.



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Forwarded to the Consulting Engineer for communication to the Engineer-in-Chief, East Coast Railway, who should be directed to put the revised surveys in hand at once and submit the required reports with the least possible delay.

(Signed) T. GRACEY, Lieut.-Colonel, R.E.,
Offg. Joint Secy. to Govt., P.W.D.

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ENCLOSURES.

No. 137 I.

*Note by the Chief Engineer for Irrigation.*

Colonel Gracey has been good enough to show me the index map of the alignment proposed for the East Coast Railway and from it I see that it is not intended to touch the Godávari system of canals anywhere except at its extreme western end (Ellore) and its extreme eastern end (Sámalkót).

2. When the general question of the line was being considered before the surveys were commenced, I strongly urged on the notice of Colonel C. J. Smith the great advisability of putting the railway in direct communication with the Godávari Western delta system of navigable canals (212 miles in length) near the *eastern* end of the Ellore canal, where the canals which fan out over the delta leave the main line ; all the canal traffic of the whole western delta goes from and comes to the Ellore canal at 6 * miles and 10 † miles from its head at Vizieswaram and it surely out of all reason that in order to get to the railway it should have to go on from 34 to 37 miles nearly parallel to the railway and at but a short distance from it, or be compelled to go into, and for some miles along, the *river* which is often troublous and sometimes impossible navigation for canal boats.

* Gostanaddi and Velpur, Bank and Narsápur canals.
† Venkiah and Weyeru, Akeed and Undi canals.

3. The line, as laid out between Ellore and the Godávari, seems to have the sole merit of straightness ; it goes through a country of no great richness, past no town or large villages ; it leaves untouched the delta with its teeming prosperity ; and it seems to purposely avoid the splendid system of canals ready to become railway feeders, if the railway will but let them do so at some fairly convenient place or places.

4. The *best place* as regards the canal traffic, at which the communication between the railway and the canals could be established, is *Chettipet*, 6 miles from the head of the delta, but to take the main line there would probably entail some, though not great, difficulties and I therefore advocated and still advocate (even if a branch should be made to Chettipet) that the main line should touch the Ellore canal somewhere near Thadpalligudem (17 miles down the Ellore canal) to which place it might be taken with but slight deviation from a straight course with no great increase of length and without encountering a single difficulty.

5. At that place (Thadpalligudem) one of the chief roads from the delta crosses the canal and the largest grain market ‡ of the district lies only two miles or so away along that road, whilst boats coming from, or going to, the heart of the delta would in the case of those using the Venkiah and Weyeru, Akeed and Undi canals have only four miles further, and in the case of those using the Gostanaddi and Velpur, Bank and Narsápur canals have 11 miles further of good navigation to proceed along than would be the case were Chettipet, the point at which they had to meet the railway.

‡ Pentapadu.

6. As regards the eastern division of the delta, the alignment of the railway would be much better, from the point of view of convenience to traffic, were it to touch the canals somewhere between Dowlaishweram and 5 § miles down instead of doing so only at some 30 miles down the Sámalkót canal, and I do not think the extra cost of taking the line as suggested would be great, at all events would not be incommensurate with the advantages gained.

§ The canals which intersect this delta fan out from about four miles down from Dowlaishweram.

7. Of course in all cases in which the railway is supposed to touch the canals, it is absolutely necessary that it should really do so and not be $\frac{1}{4}$ or $\frac{1}{2}$ a mile away or any distance which would necessitate the use of carts to effect the interchange of traffic.

CUDDAPAH,
25th September 1890.

(Signed) G. T. WALCH,
Chief Engineer for Irrigation.

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From G. T. WALCH, Esq., Chief Engineer for Irrigation, to the Consulting Engineer for Railways, dated Madras, 29th September 1890, No. 304 M.

I have the honor to inform you that the length of navigable canals in each section of the Godávari delta is as follows :—

| | | |
|---|---|---|
| Eastern section, | 159 | miles. |
| Central do. | 119 | ,, |
| Western do. | 212 | ,, |
| Total | 490 | ,, |

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*Note by the Consulting Engineer for Railways.*

I think it may be accepted that Ellore, Rajahmundry and Sámalkót are obligatory points on the railway and that any deviations from the existing alignment must be made between these points. (See maps put up—(1) index plan and section of the East Coast Railway (scale 1 mile = 1 inch) and (2), (3) and (4) plans of the delta irrigation canals (scale 2 miles = 1 inch).

2. It must be borne in mind that the East Coast Railway is meant to be a famine protective line, and it is therefore absolutely necessary that the wagons of the railway should be placed in direct communication with the boats on the navigable canals in the most convenient way possible for loading without the intervention of carts and it is clear that what is convenient in time of pressure will in this case be also convenient and economical for the requirements of ordinary trade.

3. It is also certain that in time of famine the river will be extraordinarily low and the difficulties of navigation which are described as at all times "troublous" will be greatly increased and it may be almost impossible to get large boats from the head works of the canal to the railway at Rajahmundry.

4. In time of famine there will also be scarcity of water for the canal and it may be found difficult to keep up an adequate supply in the Ellore canal for navigation purposes.

5. From the reasons given in paras. 2, 3 and 4 above, I draw the inference that at all places where the railway touches the canal the sidings should be so arranged so as to admit of direct loading from boats into wagons and that the proposed junctions of the East Coast Railway with the navigable canals of the delta at Ellore, Rajahmundry, Sámalkót and Cocanada are not sufficient.

6. The amount of the ordinary traffic to be dealt with will be best understood from the fact recorded by the Irrigation Department that the lengths of navigable canals are—

| | MILES. |
|---|---|
| Eastern section ... ... ... ... ... ... ... ... | 159 |
| Central do. ... ... ... ... ... ... ... ... | 119 |
| Western do. ... ... ... ... ... ... ... ... | 212 |

and that approximately 293,000 passengers and 375,000 tons of goods were carried over them in 1888-89.

7. With respect to the alignment between Ellore and Rajahmundry it appears from the index plans that the levels along the proposed alignment are as follows above mean sea-level :—

| | FEET. |
|---|---|
| Ellore station, mile 37 ... ... ... ... ... ... ... | 45·00 |
| Bhimadole station, mile 49 ... ... ... ... ... ... ... | 57·00 |
| Prakasarowpalem, mile 61 ... ... ... ... ... ... ... | 164·00 |
| Kormamadee, mile 70 ... ... ... ... ... ... ... ... | 80·00 |
| Mile 74 ... ... ... ... ... ... ... ... | 174·00 |
| Arangabad station, mile 84 ... ... ... ... ... ... ... | 62·00 |

It will thus be seen that proposed railway will rise 119 feet between miles 37 and 61, will then fall 84 feet in 12 miles to rise again 94 feet in the next 4 miles and fall again 112 feet in 10 miles to the Godávari river, whereas the canal runs with a gradient of less than 6 inches in the mile between Ellore and Rajahmundry and if the railway could exactly follow the canal it might be made almost level. So far as the plans show there should be no difficulty in setting



a satisfactory line which would touch the canal near Bhimadole, mile 36, Chebrole, mile 26, and again about mile 15 of the Ellore canal, from whence it might run nearly direct to the Rajahmundry crossing or touch the canal again at about * mile 3 if considered essential. Such a line would not, I think, be more than 3 miles longer than that set out, but would be approximately level, would be in touch throughout with the rich and populous lands of the delta and the navigable canals instead of passing through a district, from which very little traffic can be expected.

* Proper place for station Nidadavól—a large market on the banks of a navigable stream close to main canal; sidings might be along the navigable stream.

8. The works on the proposed alignment between Rajahmundry and Sámalkót are very heavy and the gradients are steep and it appears from the plans that a better alignment from an engineering point of view could be obtained for the railway from Rajahmundry to about mile 8 on the canal and running thence close to the canal through a level country to Sámalkót. Such an alignment would not apparently increase the length of the railway to any inordinate extent and would certainly carry it through a much richer country where I am told easy gradients could be obtained with much lighter works.

9. Copies of the note by the Chief Engineer for Irrigation and of this note might be sent to the Government of India for information and to Mr. Walker, who might be asked to set out a new alignment between Ellore and Sámalkót in accordance with the suggestions made and to then send in a full report on the two alignments in order that the Government of Madras might be in a position to pass final orders. The new section need not be traced and might be submitted in pencil in order to save time. If two survey parties are put in, one from Ellore to Rajahmundry and the other from Rajahmundry to Sámalkót the new sections should be ready in two months.

(Signed) T. GRACEY, Lieut.-Colonel, R.E.,
Offg. Consulting Engineer for Railways.

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Telegram from the Joint Secretary to Government, Public Works Department, Railway Branch, to the Engineer-in-Chief, East Coast Railway, dated 18th October 1890.

Government of Madras wish to have the alignment proposed in their telegram of 11th set out to enable them to come to a final decision. Any well considered modification in the suggested alignment that may be proposed by you will be carefully considered, and if necessary the Government will order the Consulting Engineer to visit the ground and report to them. The object to be gained is to place the railway closely in connection with the navigable canals which carry 268,000 passengers and 375,000 tons of goods and ensure full access to the canals in time of famine. Government are prepared to accept some increase to the through length of the line to ensure this object.

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Telegram from the Engineer-in-Chief, East Coast Railway, to the Joint Secretary to Government, Public Works Department, Railway Branch, dated Vizagapatam, 18th October 1890.

Do you wish any change in line from Cocanada to Vizagapatam *viâ* Sámalkót and Tuni. Please reply sharp as I have men ready to start work.

---

Telegram from the Joint Secretary to Government, Public Works Department, Railway Branch, to the Engineer-in-Chief, East Coast Railway, dated 20th October 1890.

Please consider propriety of carrying railway along spoil bank and berm of canal from Bezváda through Ellore to Nandamur aqueduct at mile 8 from anicut thence outside surplus channel to Chettipet at mile 6 and thence *viâ* Nidadavól to bridge site. Distance would probably not exceed 51 miles from Ellore to bridge site against 48 miles as laid out. Canal authorities will not object provided room is left for towpath and for widening canal.

Telegram from the Joint Secretary to Government, Public Works Department, Railway Branch, to the Collector of the Godávari District, Cocanada, dated 23rd October 1890.

Government Madras have objected to alignment East Coast Railway from Ellore through Rajahmundry to Sámalkót as it keeps away from canals and rich lands to run through comparatively poor uplands. Do you agree to alignment proposed by Engineer, East Coast Railway, through your district from Cocanada through Sámalkót to Tuni or to any part of it. Please wire reply as matter is urgent.

---

Telegram from the Collector of the Godávari District, to the Joint Secretary to Government, Public Works Department, Railway Branch, dated Cocanada, 24th October 1890.

I agree to alignment of railway from Pithápuram to Tuni. Main line should run direct from Dowlaishweram to Cocanada, thence to Pithápuram. Sámalkót is of small importance may be connected by short branch. Five canals in Eastern delta converge on Dowlaishweram.

---

From the Collector of the Godávari District, to the Chief Engineer, Railway Works, dated Cocanada, 28th October 1890, No. 1353.

In reply to your telegram, dated 23rd instant *in re* East Coast Railway, I have the honor to submit the following report.

2. The line shown on the index plan enters the Godávari district about 3 miles north of the Bezváda canal. I have no objections to make to the alignment thence to Ellore, and even to the east of Ellore, as far as Bhimadole station on the 49th mile there is little fault to be found with it. The site of Ellore station is on the parade ground. It would be as well placed on the land between the trunk road and the canal bank. This is now a paddy-field, but the Engineer has the right to cut off the water at any time. If that were done, it would be as dry as the portion of the parade ground marked out for the station. The land could be acquired at a moderate price and the only piece of green turf in the neighbourhood would be preserved for the use of the townspeople and as a camping-ground.

3. There should be a platform, ticket office and siding, if not goods shed, on the Godávari canal bank near the lock. During the three or four months the Kistna canal is closed all passengers and goods coming by canal have to be landed near the lock.

4. It would probably pay to have small stations at Dendulur and Gundugolanu on the east and at Votlúr on the west of Ellore.

5. The Colair lake extends from the Kistna border to Kykaram about 20 miles east of Ellore, running roughly parallel to the canals at a distance varying from three to five miles. The tract between the canals and the lake is the richest part of the Ellore taluk and grows much more rice than is required for local consumption, but its villages are near enough to be sufficiently well served by the line which has been surveyed to the north of the canals.

6. At Ungutúr, about 22 miles east of Ellore, the Godávari Western delta proper begins. It consists of the three very rich taluks of Tanuku, Bhímavaram and Narsápur, which have a population of 497,058 and pay in land revenue and cess Rs. 21,78,352.

7. To the north of the Ellore canal, except in its immediate neighbourhood, the country is thinly inhabited, poor and unproductive, until the alluvial belt, six or eight miles wide, which borders the Godávari is reached.

8. The present alignment leaves the neighbourhood of the canal at Bhimadole, and at the next station, Prakasarowpeta, is eight miles distant from it. It is manifest that none of the immense traffic in goods and passengers of this delta will use the railway if the alignment is not altered. It will keep to the canals until it reaches Ellore and



Rajahmundry or even Bezváda and Cocanada. Neither goods nor passengers will leave the boats and go to a railway station eight or even five miles distant by road.

9. The present line was no doubt selected in order to avoid some very difficult country near Nidadavól where there is a succession of swamps, rivers and backwaters for several miles. But the country on the south of the canal presents no such difficulties. The Ellore, Attili, Venkayya, Narsápur and some minor canals would have to be bridged. The Ellore and, where it would be crossed, the Narsápur canals are on a high level and would require long approaches, but the extra expense would be trifling compared with the great advantages to be expected from tapping the delta traffic. Apart from the canals and irrigation channels the country to be crossed presents no difficulties. It is a dead flat and for fifteen miles or so above the level of the canals, and therefore not irrigated.

10. The Ellore canal might be crossed anywhere between Ungutúr and Prattipadu as was found most convenient. The nearer Ungutúr the better for serving traffic. There should be a station wherever a navigable canal is crossed, and every four miles or so at other places in the delta.

11. Merely to enter this delta would secure a great deal of traffic, but to thoroughly exploit it a branch about 30 miles in length taking off near Pentapadu or Prattipadu and running through the centre of Tanuku taluk to Víravásaram, Pálakole and Narsápur would be required. The District Board would I have no doubt guarantee interest on such a branch and would lose nothing by so doing. I intend to lay the question before the Board at its next meeting. The land cess of the district amounts to four lakhs and a half. Two pies in the rupee of it would meet the interest on 18 lakhs at 4 per cent.

12. The Ellore canal is a little more than 46 miles in length. From Viziesweram head-lock to the parade-ground is 47 miles. The distance therefore from Ellore to a point opposite Rajahmundry would be about the same if the line of the canal is followed, but its windings cut off, as by the line surveyed. A straight line from Ungutúr to Cocanada passes eight or ten miles south of Rajahmundry. I am not sure, but this would be the best line for the through line to take, leaving Rajahmundry to be connected by a branch through Dowlaishweram.

The distance in a straight line measured on the map is only 53 miles, *viâ* Rajahmundry it is about 70 miles. A branch of ten miles added would still leave the direct route and the branch shorter by seven miles. If the Godávari is to be bridged it could perhaps be as cheaply done below as above the anicut, and bridges below the anicut would serve the important central delta as well as the rest of the district.

If the utmost advantage was taken of the numerous permanent islands (lankas) it would perhaps be found that the two branches could be crossed as cheaply as the main river opposite Rajahmundry. Where the bridge or bridges should be is a question for the Engineers with which I do not desire to meddle further.

13. On the east of the Godávari the line surveyed goes direct to Sámalkót by a route which has nothing to recommend it except that it is short and easy ; thence to Pithápuram and Tuni leaving Cocanada, immeasurably the most important place on the whole line between Madras and Calcutta, to be provided for by a branch nine miles in length, and keeping five miles from Dowlaishweram, a place on which all the canals in the Eastern delta and indeed in the district converge. Boats are not taken up the river to Rajahmundry if it can be helped. Passengers are always landed at Dowlaishweram and start from the same place, and the same would be the case to a large extent with goods if they could be transferred at once to the railway. I therefore think that, whatever line be finally decided on, there should be a station at Dowlaishweram. If the present alignment is adhered to, there should be a branch from Rajahmundry. If my suggestion of a direct line below the anicut to Cocanada is adopted, there should be a branch through Dowlaishweram to Rajahmundry.

There is a third alternative to run from Rajahmundry through Dowlaishweram along the line of the Cocanada canal to Cocanada and thence to Pithápuram.

14. If it is finally decided to cross the river at Rajahmundry this third line is the one I would recommend, because it will serve the traffic at Dowlaishweram, tap the rich and populous delta and carry the main line through Cocanada.

15. The importance of Sámalkót seems to have been over-estimated. It is a poor place with little or no trade; but there is a road from it through Pithápuram and Tuni to the Vizagapatam district, and being on the canal bank, most of the grain sent by road to the Vizagapatam district is landed there from the canal boats. The grain comes from the Western, Central and Eastern deltas, and would be transferred to the railway at any other station conveniently situated on the canal bank, such as Dowlaishweram or Cocanada. However Peddápuram, a more important place, is only three miles distant and there is a considerable extent of productive land lying along the Sámalkót canal, the surplus produce of which could be conveniently despatched from a station at Sámalkót, so if my suggestion to run direct to Cocanada and thence to Pithápuram is adopted, it may be worthwhile to make a branch—it would be four or five miles—to the canal bank at Sámalkót; or even to carry the main line from Cocanada round *viâ* Sámalkót to Pithápuram. This last suggestion would involve a detour of about five miles.

16. In approaching Cocanada from the delta one of the canals must be crossed. The Cocanada canal could only be crossed at a very inconvenient height considering the very low level of the land on which the station will be built, but the traffic on the Sámalkót canal is not large except when the other is closed and it is open, and intercommunication through a drawbridge once or twice a day would be quite sufficient to meet all wants.

17. The site selected for the station at Cocanada is about the best possible for goods and fairly convenient for passengers.

18. I have directed the Deputy Collector appointed for the acquisition of land to take up that required for the stations at Cocanada and Rajahmundry, and the line from the Kistna border to Ellore. If he completes this before a final decision is come to in regard to the rest of the line, he may return to his taluk for a time.

19. I hoped to have the advantage of discussing the question with Mr. Walker before sending up this report, but he has not yet been able to come here, so I think it better not to delay it longer.

---

Telegram from the Joint Secretary to Government, Public Works Department, Railway Branch, to the Collector of the Godávari District, dated 30th October 1890.

Land should only be taken up from Pithápuram awards towards Vizagapatam. No use in taking up land for stations when alignment is uncertain as changes in alignment will alter details of station requirements.

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From the Consulting Engineer for Railways, dated Madras, 8th November 1890, No. 784.

From the Engineer-in-Chief, East Coast Railway, to the Consulting Engineer for Railways, dated Madras, 30th October 1890, No. C.-2.

I have the honor to acknowledge the receipt of your No. 2336 of 18th instant with a note by the Chief Engineer for Irrigation.

2. On receipt of your telegram on the subject I made immediate arrangements for the surveys and alignment ordered by Government.

3. It appears from the note of the Chief Engineer for Irrigation that in his opinion the railway does not touch the canal in a sufficient number of places, and I gather that he impressed his views on Colonel Smith when the idea of the line was first started.

4. On my receiving orders for the final survey of this line, Colonel Smith gave me the maps of the country with the line marked on in red that he and Mr. Molesworth approved of; these officers went over the country selecting the line, and so



carefully did they do so that in Colonel Smith's notes which he gave me, the name of every town and village of any importance which it was desirable to go by is noted.

5. His line goes practically straight from Bezváda to Ellore; he states that a good station ground can be got near the parade-ground there, and that we should have a siding from it to the canal below the lock.

6. He notes the desirability of getting a good crossing of the Budimer, as that river floods the entire country on both sides, and then keeps on the higher and harder ground from the river to Ellore rather than the lower and softer ground near the canal. Colonel Smith thought, and so do I, that the country between Bezváda and Ellore would be well and sufficiently served by on touching the canal at these two points. There is a suggestion now of following the canal bank from Bezváda to Ellore, instead of keeping on the higher ground out of the flood influence of the Budimer. An examination of the index map will show that it would be most dangerous and inadvisable from an engineering point of view to place ourselves between the Budimer and the canal for the first ten (canal) miles from Bezváda, and we know, from the floods to which this river is subject, that the farther north we keep from its banks the better, so that, all things being taken into consideration, I am of opinion that any departure from the line as marked out in the direction of the canal for this length, will be a mistake, and lead us into permanent trouble.

7. It would no doubt be better for the village of Gunnávaram if the railway touched it, instead of being one mile away, but it is far better for the railway, both for construction purposes and maintenance, that it should be in the position marked.

8. Any one looking at the plan can see at once that the same reasoning influenced us in keeping the line by Núzvíd station so far north, and which obliged us, later on, to bend slightly south, in order to touch Ellore. A straight line could have been run from our station of Gunnávaram right into Ellore, which would have gone very near the canal at Veerilly, but the ground passed over would have been very much worse for our purpose than that over which we run. On this section I am of opinion that any change from the present alignment will be most unwise.

9. We now come to the section between Ellore and the Godávari. Colonel Smith says, "the railway should leave the canal a mile or two beyond Goondegole (say from Bhimadole) and run as straight as practicable for Chagulloo (near Kovoor). The crossing among the tanks between Bhimadole and Kovoor must be left for future consideration after examination and survey; a fairly direct line seems practicable." No doubt when Colonel Smith wrote these directions he had Mr. Walch's views before him, but well knew that the tanks and the country in which they lay were not desirable for a railway: we know what injury has been done, before now, by the bursting of tanks in Madras, and unless there were very strong reasons on the other side no Engineer of my experience would adopt the lower line.

10. It has been said that the upper or located one does not serve the requirement of this delta, as it obliges many boats, loaded in the branch canals, to return as far as Ellore, in order to meet the railway. In my opinion this is not the case.

11. The great mass of the canals are practically due south of the 10th mile of the canal, measured from the Godávari, and join the main channel between the 6th and 10th miles. If any produce intended (say) for Cocanada, entering the main canal between these points, had to go back to Ellore in order to catch the railway, no doubt great inconvenience would be felt; but this is not the case. During all the fair months in the year, when the Godávari is not in flood, boats can go direct into that river and up three miles to our station at Arangabad, and when the river is in high flood it can leave the canal near the first mile, and go direct to the Chagulloo station five miles up the large river, which there crosses our line, and which at this time of year has a much greater depth of water than is required for any canal boat.

12. This fact no doubt influenced Colonel Smith when he said "go as straight as possible from near Bhimadole and avoid the large tanks which here cover the country."

13. Thus we see that the railway is in perfect contact with the canal at Ellore, and can without difficulty be brought into immediate contact with it at Bhimadole, while at Chagulloo or Arangabad we can at all seasons bring boats to the line.

14. It may be said that this river by Chagulloo is not used for boating. Certainly not now, as it leads to nowhere in particular, but with a railway station on it it would soon become of great importance. At present it has no towing path, but would it not be better and cheaper to make one than five or six extra miles of railway?

15. It therefore becomes a question whether it is advisable or not to change 35 miles of railway, having access to the canals at each end from good and sound ground where it can be cheaply maintained to a lower and wetter, and more costly level subject to danger, and lengthen the line by five or six miles in order to get a couple of extra stations on the canal, one of which would be little used. My opinion is that such a change is not desirable.

16. The section between Rajahmundry and Cocanada is the next to be considered. Colonel Smith in his instructions is quite distinct when he writes "from Rajahmundry the line must go to Sámalkót, to shorten the branch to Cocanada, and keep in touch with the canals." My own impression is that the balance of reasons in favor of a partially direct line from Rajahmundry to Cocanada or one by Sámalkót are about equal; in the latter case we go over a far better country, we serve Sámalkót, an important place, well, and make things equal for Cocanada; in the former case we traverse a soft wet country, abandon Sámalkót, and do not improve Cocanada.

17. The gain, if any, being that the 30 miles of country passed through is richer and more populous on the lower than on the higher line.

18. So far as I know from conversation with Colonel Smith from whom I got my orders, and from his detailed notes carefully drawn up for my guidance, and from the lines laid down on the maps furnished to me, the above were his and Mr. Molesworth's reasons for taking the upper and higher level line, touching the canal at intervals, rather than a low level one along or near the canal bank.

19. I am bound to say that I agree with their views in the matter, but if Government think it more advisable to follow the canal more closely, I shall push the survey of the other line with all possible despatch.

20. The staff for the survey between Ellore and Cocanada have already got their orders for this work.

21. In an early part of this letter, I stated my reasons for not thinking it desirable to approach the canal bank between Bezváda and Ellore, I now request the favor of being informed whether the line between these points is to be changed, and if so, to what extent, also whether Government wishes a new line to be surveyed from Rajahmundry *viâ* Dowlaishweram direct to Cocanada or from Dowlaishweram to Sámalkót.

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Submitted for the orders of Government with reference to Public Works Department endorsement No. 4211 C., dated 16th October 1890.

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Telegram from the Joint Secretary to Government, Public Works Department, Railway Branch, to the Engineer-in-Chief, East Coast Railway, dated 8th November 1890.

The first 12 miles out of Bezváda as set out by you are accepted, beyond this Collector Kistna Suggestions should be followed as far as Ellore unless there are very great difficulties in the way. From Ellore to Rajahmundry Government have already expressed their opinion on alignment. From Rajahmundry Government consider that alignment should run *viâ* Dowlaishweram to about mile 13 of Sámalkót canal and thence by best alignment available direct to Cocanada and thence to Pithápuram. If Sámalkót important enough to call for railway branch 4 or 5 miles long can be



made afterwards. If found that orders issued involve very heavy work any particular place or considerable savings or improvements can be made by minor alterations you are requested immediately refer point Government Madras for orders.

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ORDER—dated 11th November 1890, No. 1774 R., Public Works.

Communicated to the Consulting Engineer for Railways with reference to his endorsement No. 784, dated 8th November 1890, for communication to Engineer-in-Chief, East Coast Railway.

2. A copy of these Proceedings will be forwarded for the information of the Government of India.

(Here enter No. 1775 R., dated 11th November 1890.)

(True Extract.)

(Signed) T. GRACEY, Lieut.-Colonel, R.E.,
Offg. Joint Secy. to Govt., P.W.D.,
Railway Branch.

To the Consulting Engineer for Railways.
" Chief Engineer for Irrigation.
" Revenue Department.
" Collector of Godávari.
" " of Kistna.

---

ENDORSEMENT—dated 11th November 1890, No. 1775 R., Public Works.

Forwarded.

(By Order.)

(Signed) T. GRACEY, Lieut.-Colonel, R.E.,
Offg. Joint Secy. to Govt., P.W.D.,
Railway Branch.

Exd. A. D. Xavier.
Spare Copies

RAILWAY.

# Govt. of {1890} Madras.

## PUBLIC WORKS.

*Dated November, 11th.*

*Recd.* *Encl.*

**G.O., 11th Nov. 1890, Nos. 1774, 1775 R.**

**NOVEMBER.**

Forwarding copy of Proceedings regarding the modified alignment of the East Coast Railway from Ellore to Sámalkót.

TELEGRAM ~~URGENT~~ ~~ORDINARY~~ DEFERRED

FROM R. To Engineer-in-Chief East Coast Ry: Sy Wallair

Government desires your project shall include comparative estimate for direct line from Rajahmundry to Coconada and thence to Samulcottah or Tuni as you may advise as well as line suggested in reconnaissance and desires expression of your views on former having regard to cost of future working and convenience to trade.-

C.I.S.
20. 2. 90

R

PUBLIC WORKS DEPARTMENT,

RAILWAY BRANCH.

READ the following :—

FOR ORDERS.

I forward for the con-
sideration of the Hon
Minister a letter &
of the Surveys & Levels
between Dowlaisheen
and Cocanada.
I have a very strong
conviction that, in
order to get rid of the
inconvenience and the
cost of working a Branch
line to an important
seaport centre like Cocanada
it would pay to take
the East Coast Railway
Orissa & Cocanada
instead of the Secunderabad
and I think comparatively
speaking it is the
shortest, including in
fact even the cost




Office of the Chief Engineer for Irrigation Chepauk 6th April 1887

Photo-Zincographed in Central Survey Office, Madras. 1889

10-10-90

Signed) J. P. DAVIDSON, Chief Engr. For Irrigation.

Canal, should be
submitted for the consideration
of the Govt of India.
The Direct line would
involve 13 miles & the 7
line and consequently
the cut in land, probably
for a length of 12 miles
but the Bay and Capitally
cut of working the Branch
from Samalcotta Cocanada
would in my opinion
outweigh this.
I do not feel at all sure
that Mr Bellew will
consider this point and
I am afraid lest the limit
of time taken to submission
of the project and to
hurry in conducting
may lead to the sanctioning
being withheld
The survey of the Direct line
to Cocanada will not
have been undertaken until
the decennial rains are closed
and probably this is
not the case yet
If the Hon Member approves
I will wire to Mr. Bellew
at once.

C. J. Smith Lt Col R.E.

20. 2. 90.

FOR ORDERS.

I have no doubt the point is worthy of consideration and that Mr. Ws attention should be called to it. But is it worth while to have full comparative estimates for it? Is it essential on the main line that Samalcotta to Cocanada should be worked as a branch? I don't quite understand what that means, I am afraid.

W.W.
21 Feb

Rt. Telegram
Accompanies

Cir 20-2-90 R. 21-2.90

LP
26-9-90

Camp Cuddapah
25th Sept 1890.

Office Note

No. 192 Engineering

From "I."

To "R."

Herewith the "Note"
about the alignment
of the East Coast Railway
in the Godavari District
which after our
conversation you
asked me to write.

2. I would suggest
that it would be well
to bring the matter
to the notice of His
Excellency before he
in his speech or
Elsewhere, has to
refer to the alignment
of the Canal

3. I feel very strongly
on the subject of
the utter folly of
not putting the
Railway

railway into Convenient
Communication
with the Canals
merely in order to
make it straight
lines between long
distant points
and so save a very
few Extra miles
in length.

W.

J

PUBLIC WORKS DEPARTMENT,

RAILWAY BRANCH.

READ the following:—

Telegram of 24th October from the Collector of Godavery.

FOR ORDERS.

The Collector of Godavery requests that the line should run from Raj mundry to Dowlaishwaram and thence to Coconada direct and from Coconada to Pittapur.

~~It appears that a better line to~~
~~is to have a deflection from~~

By this alignment the Railway will not pass Samalcotta and the whole question is the importance of Samalcotta if Samalcotta is of sufficient importance as urged by the Collector the line should run as near direct to Coconada. If Samalcotta must be served by the railway the present alignment with the branch from there there to Coconada must be accepted

Mem. 28.x.90
Rept

I have not sufficient local knowledge to enable me to offer an opinion on the question of Jamalcotta but I observe that Lt Col Wilford Works constr, Col Smith and all other authorities except the present Collector the former Collector the Executive Engineer & the Executive Architect appear to consider Jamalcotta the most eligible point -

H
27/10

probably
Ex. perhaps so - but
they have accepted the rel-
-ative of canals in the
Delta - but I think
H Col: is right - how
ever from Col: Wilford
& instructions via Jamal
-cotta ! the present Col: is
also !

H
4/11/90

Partly likely to be wrong in
describing small Kottah as
a small place.

FOR ORDERS

PUBLIC WORKS DEPARTMENT,

RAILWAY BRANCH.

READ the following: –

1 ~~Letter~~ G. O. N° 1554 R Dy 21st October 1890
2 Letter N° 4211 C Dy 16th Oct. & enclosures to Govt of Bengal
3 Letter N° 1353 Dy 28th October 1890 from the Collector of the Sundarbans Division
4. Letter N° C2 Dy 30th October 1890 from the Engineer in Chief East Coast Railway

FOR ORDERS.

Most of the points raised in the above quoted Correspondence have been already settled and it is not necessary to refer to them also any one in detail It should however be clearly understood that Mr. Walker set out the line ordered by Col Smith & has gone very carefully into all previous notes & instructions mentioning almost every bit of the line was to have through - Mr. Walker showed me the notes when he was here but I have not been able to find any trace of them in this office -

2. I agree with Mr. Walker in thinking that for keeping near to the first 10 miles of the line should not be altered so as to bring it nearer the hills as of Kosaipalli it will be seen from the plans & sections that the line does not leave the vicinity of the Sundarbans even till the 10th mile is reached and any alteration here should be in the direction of

Para 6 of Engineer in Chief's letter.

H
2/11

Recd 6.XI.90
6.XI.90

H-Pur-10-10-90

getting out of the valley of the difficult reach and test in the direction of getting further into it.

3. From Milk 12/40 to Ellore I can at present see no reason for any thing point of view why the line suggested by the Collector should not be followed and it should certainly be set out & surveyed.

4. From Ellore to Raj Mundry does have already been passed on the alignment and I do not think that Mr Walker has urged any facts which were unknown and which have not been already considered. The Chennal between the Canal & Chaya Illoo is I am informed by Mr. Walker not generally used for navigation and is not suited for the purpose although boats do occasionally go up it. The proposal made by the Collector of the Godavari for running down into the Eastern delta do not appear feasible bearing in mind that Raj Mundry is the only possible place for bridging the river

5. With refer to the alignment between Raj Mundry & Cocanada it appears to me that Samalkotta is a place of much importance owing to its being at the head of the Navigable Canal from Cocanada and that its importance will at once declare when the Railway is opened. Even accepting that Samalcotta is a place of considerable importance it would be easy to run the line past Cocanada on the main line must cross Samalcotta with a branch of 4 or 5 miles long and this would I think be the better plan as Cocanada is the most important place on the whole N.E. I therefore think that the line might as suggested by the Collector from Rajmundry to Dowlaiswaram and thence along the left bank of the Samalcotta Canal to about mile 13 when the Canal would be crossed and Railway would be taken near Bikkavol to Cocanada direct by the best route available. From Cocanada the Railway would run direct to Pittapore and join there Join the section of the East Coast Railway which is now already agreed to.

H
6/8/90

4 yes + follows unless there are very great difficulties in the way. H.H.S

No

+

Mr Lovat Fraser will perhaps take up this problem + solve it H.H.S

Miss Clays my view H.H.S

approved H.H.S 7/11/90

H.Pe-10-10-90

1774 R

P. W. Department.

Read the following:—

East Coast railway from
Ellore to Samalcotta

FOR ORDERS.

I submit the draft to Medical for approval - I have consulted Mr Wabeh who has considered the rough draft - I noticed is marked in the Canal heads it is not known which branch it owing to its being on the wrong side of the Canal

10/10/90

H-Pw-10-10-90. K 11/10

FOR ORDERS.

No 1774-SR&I 11-1-90

~~Urgent~~
~~Ordinary~~
DEFERRED

TELEGRAM

Print

37P

FROM

To

E. R.

East Coast Railway

The first 12 miles out of Bezwada as
laid out by you are accepted beyond this
Collector Kistnas says sections should be
followed as far as Ellore unless there are very great difficulties
in the way. From Ellore to Rajmundry Govt
Officers have already Expressed there
opinion on alignment. From Rajmundry Govt
Engineer Consider their alignment should
run via Dowlaishwaram to about mile 13
of Canal Samalcotta Canal and thence
by best alignment available direct to
Cocanada and thence to Pithapuram. If
Samalcotta is important enough to call
for railway it is much 4 or 5 miles away

Can be made afterwards. If found that
when in road involve very heavy work in any particular
place a Curvilinear easing in unforeseen cuts can
be made by minor alterations you are requested
immediately
to report ~~at once~~ on found
~~at once~~ refer ~~the~~ the Chief Engineer for
orders.

4/11/90

Dispatched 28/11/90

Get this printed with previous letters in
a G.O. as ~~Chief~~ Engineer and send Copies
to E.R. Collector of Kistna, Collector of Godavary
& J. and any one else who ordinarily gets such
G.O.s

No. 1353

Godavari District
Collector's Office, Cocanada
28th October 1890

From

W. A. Stuart Esquire
Collector, Godavari,

To

The Chief Engineer
Railway Works.
Madras.

Ltr. 30/10/90

Sir,

In reply to your telegram dated
23d instant, in re East Coast Railway
I have the honor to submit the
following report.

2. The line shown on the Index
plan enters the Godavari District
about 3 miles north of the Buckingham Canal.
I have no objections to make to the
alignment thence to Ellore, and
even to the East of Ellore as far

as Bhimadole Station on the
49th mile there is little fault to be
found with it. The site of Ellore Station
is on the parade ground. It would be as
well placed on the land between the
Trunk road and the Canal bank. This
is now a hardy field, but the Engineer
has the right to cut off the water
at any time. If that were done
it would be as dry as the portion
of the parade ground marked out
for the Station. The land could be
acquired at a moderate price and
the only piece of green turf in the
neighbourhood would be preserved
for the use of the towns-people and
as a Camping-ground.

3. There should be a platform
ticket office and siding, if not
goods shed on the Godavari Canal
bank near the lock. During the three
or four months the Kistna Canal is
closed, all passengers and goods
coming by Canal have to be landed
near the lock.

4. It would probably pay to have
small stations at Denduluru and
Gundugolanu on the East and at
Vatluru on the west of Ellore.

5. The Colair Lake extends from the
Kistna border to Mykaram about
20 miles East of Ellore running
roughly parallel to the Canals
at a distance varying from
three to five miles. The tract between
the Canals and the Lake is the
richest part of the Ellore taluk
and grows much more rice than

is required for local consumption,
but its villages are near enough
to be sufficiently well served by
the line which has been surveyed
to the north of the canals.

6. At Elngutur, about 22 miles
East of Ellore, the Godavari western
Delta proper begins - It consists
of the three very rich Taluks of
Tanuku, Bhimavaram and
Narsapur which have a population
of 4.97.058 and pay in land revenue
and cess Rs 21.78.352.

7. To the north of the Ellore canal
Except in its immediate neighbourhood
the country is thinly inhabited,
poor and unproductive, until
the alluvial belt, six or eight
miles wide, which borders the
Godavary is reached. The





8. The present alignment leaves
the neighbourhood of the Canal at
Bhimadole, and at the [illegible] kept
station, Prakasarowpeta is 8 miles
distant from it - It is manifest
that none of the immense traffic
in goods and passengers of this
Delta will use the Railway
if the alignment is not altered.

It will keep to the canals until it
reaches Ellore and Rajahmundry
or even Bezwada and Cocanada.
Neither goods nor passengers will
leave the boats and go to a Railway
Station 8, or even 5 miles distant
by road.

9. The present line was no doubt
selected in order to avoid some
very difficult country near

Nidadavolu where there is a succession of swamps, rivers and backwaters for several miles.

But the Country on the South of the canal presents no such difficulties. The Ellore, Attili, Venkayya, Narsapur and some minor canals would have the bridges. The Ellore, and where it would be crossed the Narsapur Canals are on a high level, and would require long approaches, but the extra Expense would be trifling Compared with the great advantages to be expected from tapping the Delta traffic. Apart from the Canals and irigation Channels the Country to be crossed presents no difficulties. It is a dead flat and for fifteen miles or so above the level of the Canals, and therefore not irrigated -

10. The Ellore Canal might be crossed anywhere between Ungulúr and Pratipadu as was found most Convenient - The nearer Ungulúr the better for sewing traffic.

There should be a station wherever a navigable canal is crossed, and every four miles or so at other places in the Delta.

11. Merely to enter this Delta would secure a great deal of traffic, but to thoroughly exploit it a branch about 30 miles in length taking off near Pratipadu or Pentapadu and running through the Centre of Tanuku Taluq to Viravasaram, Palacole and Narsapore would be required. The District Board

would I have no doubt guarantee
interest on such a branch and would
lose nothing by so doing - I intend
to lay the question before the Board
at its next meeting - The land Revs
of the District amounts to four
lakhs and a half - Two pie in
the rupee of it would meet the interest
on 18 lakhs at 4 per cent.

12. The Ellore canal is a little
more than 46 miles in length -
From Vizierswaram's Head lock
to the Parade Ground is 47 miles -
The distance therefore from Ellore
to a point opposite Rajahmundry
would be about the same if
the line of the canal is followed,
but its windings cut off, as by
the ~~line~~ line surveyed. A
straight line from Dongaloor to



Cocanada passes eight or ten miles
South of Rajahmundry. I am not
sure but this would be the best line
for the through line to take leaving
Rajahmundry to be connected by a
branch through Dowlaishweram.
The distance in a straight line
measured on the map is only 53 miles
- via Rajahmundry it is about 70 miles.
A branch of ten miles added would
still leave the direct route, and the branch shorter
by 7 miles. If the Godavary is
to be bridged it could perhaps
be as cheaply done below as
above the Anicut, and bridges
below the Anicut would serve
the important central delta
as well as the rest of the District -
If the utmost advantage was

taken of the numerous permanent islands (Lankas) it would perhaps be found that the two branches could be crossed as cheaply as the main river opposite Rajahmundry. Where the bridge or bridges should be is a question for the Engineers with which I do not desire to meddle further.

13. On the East of the Godavery the line surveyed goes direct to Samalcottah by a route which has nothing to recommend it Except that it is short and easy; thence to Pittapur and Tuni leaving Cocanada, immeasurably the most important place on the whole line between Madras and Calcutta, like provided for by a branch nine miles in length, and keeping



five miles from Dowlaishweram, a place on which all the Canals in the Eastern Delta, and indeed in the District converge. Boats are not taken up the rivers to Rajahmundry if it can be helped. Passengers are always landed at Dowlaishweram and start from the same place and the same would be the case to a large extent with goods if they could be transferred at once to the Railway. I therefore think that, whatever line be finally decided on, there should be a station at Dowlaishweram. If the present alignment is adhered to there should be a

branch from Rajahmundry -
If my suggestion of a direct line
below the Anicut to Cocanada
is adopted there should be a
branch through Dowlaishwaram
to Rajamundry.
There is a third alternative to
run from Rajahmundry through
Dowlaishwaram along the line
of the Cocanada Canal to Cocanada
and thence to Pittapore -

14. If it is finally decided to cross
the river at Rajahmundry this
third line is the one I would
recommend, because it will serve
the traffic at Dowlaishwaram,
tap the rich and populous Delta
and carry the main line through
Cocanada -

15. The importance of Samalcotta





seems to have been over Estimated.
It is a poor place with little or no
trade; but there is a road from it
through Pittapore and Tuni to the
Vizagapatam District, and bring on
the Canal bank most of the grain
sent by the road to the Vizag.m District
is landed there from the Canal boats.
The grain comes from the western
Central and Eastern Dellas, and
would be transferred to the Railway,
at any other Station conveniently
situated on the Canal bank, such as
Dowlaishweram or Cocanada -

However Peddapur a more
important place is only three miles
distant and there is a Considerable
Extent of productive land lying
along the Samalcottah Canal,

the Surplus produce of which could be conveniently despatched from a Station at Samalcottah, so if my suggestion to run direct to Cocanada and thence to Pettapur is adopted it may be worth while to make a branch - it would be 4 or 5 miles - to the canal bank at Samalcottah; or even to carry the main line from Cocanada round via Samalcottah to Pettapur - This last suggestion would involve a detour of about five miles -

16. In approaching Cocanada from the Delta one of the Canals must be crossed - The Cocanada Canal could only be crossed at a very inconvenient height considering



the very low level of the land on which the Station will be built, but the traffic on the Samalcottah Canal is not large except when the other is closed and it is open, and inter communication through a drawbridge once or twice a day would be quite sufficient to meet all wants -

17. The Site Selected for the Station at Cocanada is about the best possible for goods, and fairly convenient for passengers.

18. I have directed the Deputy Collector Appointed for the Acquisition of land to take up that required for the Stations at Cocanada and Rajahmundry, and the line from the Kistna border to Ellore - He Completes these before

a final decision is come to.
In regard to the rest of the line he
may return to his Taluq for a
time.

19. I hoped to have the advantage
of discussing the question with
Mr Walker before sending in
this report, but he has not yet been
able to come here, so I think it
better not to delay it longer.

I have the honor to be
Sir,
Your most obedient Servant
W Hamilton
Collector

Wm Collector Hamilton
Land should not be taken up from
Pattapur towards Vizagapatam -
no use in taking up land for Station
When alignment is uncertain as changes
in alignment will alter details of
station requirements - Ll
30/10

Telegram dated 30-10-90

Acknowledging telegram
but not written Mr Walker
Collector Ll
30/10/90
& in Reply

30

Revenue {1890} Department.

No. 2336 of 15.x.90.
.4211 of 16.x.90

From

The Collector,
Godavari District.

No. 1353

Dated 28th
Despatched } October 1890.
Received

No.

SUBJECT.

Submitting the report in regard to the East Coast Railway called for in his Telegram dated 23rd instant

Code Class. 2

INDIAN TELEGRAPHS. 08030 Monthly Number.

To (Office) Madras Triplicane From (Office) Cocanada

| Words | Day. | Hour. | Minutes. | Official Instructions. |
|---|---|---|---|---|
| 48 | 24 | 14 | 42 | Depd |

To (Person) Works Railway

From (Person) Collector

218

Repeated 25/10

I agree to alignment of railway from pithapuram to Tuni main line should run direct from Gowlaiswaram to Cocanada thence to pithapuram same letter is of small importance may be connected by short branch from canal in eastern delta converge on Gowlaiswaram

64 Word Form.

F.C.2.

Recd. from LN. At Hrs. Mts. by

Sent to LN. At Hrs. Mts. by

Telegraph Master.

W. Allen and Co.—No.179F—8-2 90—20,00,000.

MADRAS 24-10-90

PWC No 10377

Usman

PWC No 10226

Rg 28-10-90

Telegram despd 23-10-90

Gr
Chr Harford

To
Collector
Godavery district. 20P

Defined Cocanada.

Govt Madras have objected to alignment East Coast railway from Ellore through Rajmundry to Samalcotta as it passes through Canals & rich lands to run through embankment upon uplands - Do You approve alignment proposed by Engrs in Chg East Coast railway through your District from Cocanada through Samalcotta to Tuni or to any part of it please wire particulars with as little delay as matter is urgent -

H
23/10

P. W. Department.
Railway Branch.

INDIAN TELEGRAPHS. 07192

Code Class. } DS Monthly Number. } 187

To (Office) Madras From (Office) Vizagapatam

| Words. | Day. | Hour. | Minute. | Official Instructions. |
|---|---|---|---|---|
| 36 | 18 | 17 | 49 | Defd |

To (Person) Work Rly

From (Person) En C E.C Rly

Do you wish any change in line from Coconada to Vizagapatam Via Samalkotta and Tuni please reply sharp as I have 2 men ready to start work.

Ll. 19.10.90 2 R. 1

64 Word Form. F.C2.

Recd. from ... L.M. At ... Wea. ... Hts. by ...

Sent to ... L.M. At ... Wea. ... Hts. by ...

Time ... Telegraph Master.

MADRAS 18-10-90

G. W. Allen and Co'—No. 179 T—8-2-90 —20,00,000.

in direct communication with the Canal ... Canal

P. W. Department.
Railway Branch.

Read the following:—

FOR ORDERS.

It is suggested that the following telegram might be sent to Engineer-in-Chief, East Coast Railway.

"Please consider propriety
"of carrying railway along spoil
"bank and berm of canal
"from Bezwada through Ellore
"to Nandamur aqueduct at
"mile 8 from Anicut thence
"outside surplus channel
"to Chettipeta at mile 6
"and thence via Nidadavol
"to bridge site. Distance
"would probably not exceed 51 miles
"from Ellore to bridge site
"against 48 miles as laid out.

Canal

19/10/90

Ld in Bir appross of.

The telegram is sent because Mr Walker said there was reason to expect Govt of Madras would insist in keeping the line by 16 miles.

Telegram disp. 20-10-90

also to suggest an alignment that would give an almost level gradient at very small cost & would put the railway very close in direct communication with the Canal.

"canal authorities will not
"object provided room is
"left for towpath and for
"widening canal."

Jmcy L Hall
Offg: Jt Secy: to Govt. P.W.D.
Ry: Branch.

FOR ORDERS.

Rec'd 18/10

P. W. Department.

Read the following:—

Telegram Dy 14-10-90 from Engr
East Coast railway

FOR ORDERS.

I request that the following
Wpk should be sent -

" Govt y wishes with ~~[illegible]~~ to
have the alignment postponed in
their telegram y 11th ~~[illegible]~~ but
~~[illegible]~~ to enable them to come
to a final decision - Any work
considered modification ~~[illegible]~~ postponement
by Govt in the ~~[illegible]~~ lay out alignment
that may be postponed by you
with be carefully considered & if
necessary the Engr with refer the
Consulting Engrs to visit the
ground and report to them - The
object to be gained is to place
the railway clear of Encroachment
with the ~~[illegible]~~ navigable Canals
which carry 260000 tons of
and 375000 tons of goods and

Telegram dated 18-10-90

Hd. 18-x-90
Rec'd
Again 20-x-90

Hd. 16-x-90
Rec'd

Ensure full
~~Schedule~~ address accn of the
canals in time of famine - Govt
are prepared to accept some
increase to the charge keeping
the line to secure this object.

Ag
16/10/80

FOR ORDERS.

No. 4216

Government of Madras.

**PUBLIC WORKS DEPARTMENT.**

To

The Secretary to the Government
of India, P.W.D.

16 October 189 0.

SIR,

I am directed to forward
copies of notes by the Chief
Engineer for Irrigation
Madras and by the offg
Consulting Engineer for
Guaranteed Railways relative
to the alignment of the
East Coast Railway between
Ellore and Samulcotta.

2. The Government of
Madras is of opinion that
the modified alignment
of the Railway as suggested
by

J.H.S
11/10/80

by Rly Walch with Stations
on the banks of the Ellore
and Samalcotta Canals
so as to admit of goods
being unloaded direct from
the boats into the Railway
waggons
is very desirable

3. The following Stations
between Ellore and Rajamundry
would it is thought best
serve the traffic that might
be expected from the
Canals in the western side
of the river.

1 Ellore Mile 47.
2 Bhimadole Mile 36.
3 Chebrole Mile 26
4 Thadepallingudem Mile 16.
5 Nidadavole Chittipatti Mile 6
6. Nidadavole — mile 4
7) Asanga bad or Kovvoor
which ever may be found
most suitable for crossing
the river to Rajamundry

There

There should be no
difficulty in setting out
an alignment which would
give stations on the Canal
at the first 6 named places
and a station at Nidadavole
is most desirable and
should it is considered,
be provided even if
considerable extra cost
is entailed thereby as the
Canals of the western Section
of the Godavari delta
begin to fall out
from a little below that place

4. Between Rajamundry and
Samalcotta it is believed
that a much easier alig
ment with no increase
increase in through length
would be obtained by
turning down to Kasavaram
the junction of the Bunder Canal
with the Samalcotta Canal
about miles of the Samalc
Canal

parallel to it to Samulcotta
with stations in suitable
positions about miles 8,
17 and 24.

6. The government of
Madras feel very strongly
that the alignment set
out by the Engineer-in-
Chief, East Coast
Railway, between Ellore
and Rajamundry & Samulcotta
will not properly accommodate
the traffic of the rich
and populous irrigated
lands of the Godavari
Delta and they consider
that the interests of local
traffic have been unduly
neglected in favour of
obtaining a short and
direct through route.

May

The main purpose for which the Delta canals were constructed was irrigation, which yields a large return on the capital invested, but the Secretary of State is of opinion that the navigation of the canals is also a matter of high importance, and for irrigation purposes, and he is unwilling to sanction any proposal which would interfere with the navigation, except under the most urgent necessity. He therefore considers that the Railway Company should be required to carry out their undertaking in such a manner as to avoid, as far as possible, any interference with the navigation of the canals, and that if the Railway is constructed in such a manner as to render it necessary to close any portion of the canals for navigation purposes, the Railway Company should be required to pay the cost of providing such other means of communication as may be found necessary.

for.

They have therefore directed the Engineer-in-Chief to make a revised Survey embodying the suggestions made in this correspondence and to report fully upon the original and revised alignments at a very early date and they trust that their action in this matter will meet with the approval of the Government of India.

10/10/90

Forwarded to the Chief Engineers for communication to the Engineer-in-Chief. The Coast Railway who should be directed to put the revised Surveys in hand